

1       **EXPENDITURE MANAGEMENT SYSTEM, METHOD AND RECORDING MEDIA**

2       FIELD OF THE INVENTION

3       The present invention relates to expenditure management.  
4       More particularly it relates to managing accounts and  
5       accounting in response to automatic transfer service of  
6       rates.

7       BACKGROUND

8       Nowadays, automatic transfer services are widely used,  
9       wherein public utility rates and costs of goods that are  
10      regularly purchased (e.g., subscribed publications) are  
11      automatically paid from an account at the financial  
12      institution such as a bank. In this kind of transfer  
13      service, detail data about rates is created at a  
14      correspondent (payee of rates), such as a public agency, and  
15      provided to a paying entity, however, these detail amounts  
16      are generally payments only. On the contrary, since five  
17      percent of consumption tax is imposed on general consumption  
18      in Japan, the amount of consumption tax has been calculated  
19      by multiplying payments by a value of 5/105, in order to  
20      comprehend and obtain the consumption tax from the detail  
21      data.

1 Besides, in a relatively complicated organization such as an  
2 enterprise, it is common to perform the accounting procedure  
3 and financial management, including journalizing within an  
4 organization, using an accounting system. In this case,  
5 master data is created to manage the handling of  
6 expenditures in an organization, then collating the detail  
7 data from the correspondent with the master data, thereafter  
8 the journal data that is used in the accounting system is  
9 created or the accounting procedure is performed.

10 Fig. 7 is a diagram showing a configuration example of a  
11 conventional accounting system that manages an automatic  
12 transfer service. Fig. 7 shows an example of performing the  
13 automatic transfer for telephone rates. Depending on the  
14 use of telephones in an organization 100, utilization data  
15 occurs at a telephone company 200. Concurrently, master  
16 data is created at an organization 100 depending on the same  
17 use and stored in a master database 110. Then, the  
18 telephone company 200 creates detail phone call data 201 on  
19 the basis of utilization data and provides it to the  
20 organization 100. The organization 100 receives the detail  
21 phone call data 201 and collates the detail phone call data  
22 201 with master data 101 stored in the master database 110  
23 at the data collation section 120 using a telephone number  
24 key as a collation key.

25 Journal data for appropriation and write-off (or transfer)  
26 of expenditures 102 obtained from this collation is stored  
27 in the cash book database 130 and the general ledger  
28 database 140. After telephone rates are checked off from an

1 account at the financial institution 300 such as a bank,  
2 recorded data of the account balance of the organization 100  
3 is compared with data of the cash book database 130 and the  
4 general ledger database 140 at the financial affairs/fund  
5 management section 150 in order to check corrigenda of the  
6 automatic debt transfer.

7 When managing the automatic transfer service by such a  
8 system, there is a method wherein the master data is created  
9 in a lump for appropriation and write-off of expenditures  
10 and there is a method wherein master data is created for  
11 every unit of service use or purchase of goods (hereinafter  
12 referred to herein as unit of use) in view of transfers  
13 between departments of an organization. In a large-scale  
14 organization, it is common to create master data for every  
15 unit of use for convenience of journalizing within the  
16 organization. In the example shown in Fig. 7, master data  
17 101 is created for every phone call and collated with the  
18 detail phone call data 201.

19 Problems to be Solved by the Invention

20 As mentioned above, presently, comprehending and obtaining a  
21 consumption tax from detail data of rates that are created  
22 in the conventional automatic transfer service, an amount of  
23 consumption tax is calculated by multiplying payments by a  
24 value of 5%.

25 However, there might be a problem when calculating an amount  
26 of consumption tax by a uniform calculation like this. For

1 example, when applying the automatic transfer service to  
2 payments of telephone rates, 5 % of consumption tax is  
3 imposed on domestic phone calls, thus a consumption tax is  
4 able to be calculated by the above calculation. However, as  
5 for an international call, no consumption tax is imposed,  
6 thus the above calculation can not be applied to the  
7 payments of the detail data. Likewise, the amount of  
8 consumption tax that is calculated by the above uniform  
9 calculation on the basis of the detail data including  
10 transactions between nations, does not match the amount of  
11 consumption tax to be actually imposed on payments.

12 Conventionally, in order to manage the automatic transfer  
13 service by an accounting system based on a computer in an  
14 organization such as an enterprise, it is common to create  
15 master data for every unit of use to manage the handling of  
16 expenditures, and to collate the master data with detail  
17 data from correspondents.

18 In a large-scale organization, it is often the case that  
19 rates are paid for every department rather than being paid  
20 in a lump, thus the rates paid by the automatic transfer  
21 service need to be separated for every department.  
22 Therefore, master data needs to be created for every unit of  
23 use in order to transfer between the departments and specify  
24 a department which should pay the rate.

25 However, when creating master data for every unit of use and  
26 managing the automatic transfer service, an account transfer  
27 at a financial institution is performed for every unit of

1 use. For this reason, recorded data of an account balance  
2 involved in the account transfer becomes enormous, which  
3 makes an accounting procedure complicated.

4 SUMMARY OF THE INVENTION

5 It is therefore an aspect of the present invention to  
6 provide an expenditure management system for performing the  
7 handling of consumption tax .

8 It is another aspect of the invention to provide an  
9 expenditure management system for performing various kinds  
10 of management by creating master data for appropriation and  
11 write-off of expenditures and master data for transfer  
12 within an organization.

13 BRIEF DESCRIPTION OF THE DRAWINGS

14 These and other aspects, features, and advantages of the  
15 present invention will become apparent upon further  
16 consideration of the following detailed description of the  
17 invention when read in conjunction with the drawing figures,  
18 in which:

19 Fig. 1 is a diagram illustrating an expenditure management  
20 system according to an example embodiment of the present  
21 invention;

1 Fig. 2 is a diagram showing a configuration example of data  
2 stored at the pre-journalizing details database with respect  
3 to telephone rates paid to a telephone company according to  
4 the embodiment of the present invention;

5 Fig. 3 is a diagram showing a configuration example of an  
6 input format for registering master data with the master  
7 database according to the embodiment of the present  
8 invention;

9 Fig. 4 is a diagram showing an operation for creating  
10 appropriation journal data by a data collation and  
11 journalizing section according to the embodiment of the  
12 present invention;

13 Fig. 5 is a diagram showing an operation for creating  
14 transfer journal data by the data collation and journalizing  
15 section according to the embodiment of the present  
16 invention;

17 Fig. 6 is a diagram showing appropriation journal data and  
18 transfer journal data generated from detail data converted  
19 to a unified format and master data according to the  
20 embodiment of the present invention;

21 Fig. 7 is a diagram showing a configuration example of a  
22 conventional accounting system that manages the automatic  
23 transfer service.

1      Description of the Symbols  
2      10: Detail data input section  
3      20: Data format conversion section  
4      30: Pre-journalizing details database  
5      40: Master database  
6      50: Data collation and journalizing section  
7      60: Appropriation database  
8      70: Transfer journal database

9      DETAILED DESCRIPTION OF THE INVENTION:

10     The present invention, provides an expenditure management  
11    system that manages expenditure for an automatic transfer  
12    service of rates. An example system includes: a detail data  
13    input section for inputting detail data about this rates; a  
14    pre-journalizing details database for storing this detail  
15    data input at the detail data input section; a master  
16    database for storing master data used for journalizing on  
17    the basis of collation with the detail data; a data  
18    collation and journalizing section for collating the detail  
19    data stored in the pre-journalizing details database with  
20    the master data stored in the master database and creating

1 journal data; and a journal database for storing the journal  
2 data created at the data collation and journalizing section.

3 The data collation and journalizing section creates  
4 multiple kinds of journal data according to the contents of  
5 processing for the expenditure management, while the master  
6 database stores multiple kinds of master data depending on  
7 the multiple kinds of journal data created by the data  
8 collation and journalizing section.

9 The processing in the expenditure management involves, for  
10 example, processing for performing appropriation and  
11 write-off of expenditures in a lump as an overall  
12 organization, and processing for transfer between  
13 departments within the organization, when a given  
14 organization uses the automatic transfer service.

15 The expenditure management system often further includes a  
16 data format conversion section that converts the detail data  
17 input at the detail data input section into a unified data  
18 format, wherein the pre-journalizing details database stores  
19 the detail data converted at the data format conversion  
20 section. This allows handling the detail data created at  
21 the correspondents (i.e., payees of rates) uniformly in a  
22 common data format, even if the data format of those detail  
23 data is unique to each correspondent.

24 The unified data format that is converted at the data format  
25 conversion section comprises at least a transfer key, an  
26 amount for each transfer key, and identification data  
27 showing a kind of data that was classified according to

1 journalizing by the data collation and journalizing section.  
2 Moreover, the master database stores a first master data  
3 that manages a total amount of main body that does not  
4 include consumption tax within the rates in the detail data,  
5 which is used for appropriation and write-off of  
6 expenditures as the processing in the expenditure  
7 management; and a second master data that manages an amount  
8 for each transfer key in the detail data, which is used for  
9 transfer as the processing in the expenditure management.

10 The invention, also provides an expenditure management  
11 system which generally includes detail data storing means  
12 for storing detail data about rates; and journalizing means  
13 for journalizing the detail data, wherein the detail data  
14 storing means classifies the detail data into data for each  
15 transfer key, data about a total amount of main body that  
16 does not include consumption tax, and data about total  
17 consumption tax and storing, wherein the journalizing means  
18 collates master data prepared for collation with the detail  
19 data according to the contents of journalizing with data  
20 necessary for the journalizing within the detail data and  
21 performs journalizing.

22 More specifically, the detail data storing means further  
23 classifies data for each transfer key in the detail data  
24 into an amount subject to consumption tax and a nontaxable  
25 amount.

26 Further, the journalizing means collates data about the  
27 total amount of main body stored in the detail data storing

1 means and data about the consumption tax with master data  
2 corresponding to data about the total amount of main body,  
3 thereby journalizing for appropriation and write-off of  
4 expenditures. Moreover, the journalizing means collates  
5 data for each transfer key stored in the detail data storing  
6 means with master data corresponding to data for this  
7 transfer key, thereby journalizing for transfer.

8 In a further embodiment of the present invention, there is  
9 also provided a method for managing expenditure for an  
10 automatic transfer service of rates. The method generally  
11 includes the steps of: acquiring detail data about the  
12 rates; creating a plurality of master data according to  
13 contents of journalizing, wherein the master data is used  
14 for journalizing on the basis of collation with the detail  
15 data; and collating the detail data with the master data and  
16 creating multiple kinds of journal data according to  
17 contents of processing in the expenditure management.

18 In some embodiments, the method further comprises after the  
19 step of acquiring detail data, the step of converting the  
20 acquired detail data into a unified data format.

21 In some cases, the method further includes after the step of  
22 acquiring detail data, the step of classifying the acquired  
23 detail data into data for each transfer key, data about a  
24 total amount of main body that does not include consumption  
25 tax, and data about total consumption tax.

26 More specifically, the step of classifying the detail data

1 further comprises the step of multiplying a total amount of  
2 main body subject to consumption tax within data for each  
3 transfer key in the detail data by a value corresponding to  
4 a consumption tax rate to calculate an amount of consumption  
5 tax for the data about total consumption tax.

6 The step of creating master data often further comprises the  
7 steps of: creating a first master data that manages a total  
8 amount of main body that does not include consumption tax  
9 within the rates in the detail data; and creating a second  
10 master data that manages an amount for each transfer key in  
11 the detail data. On the other hand, the step of creating  
12 journal data comprises the steps of: collating the detail  
13 data with the first master data to create journal data for  
14 appropriation and write-off of expenditures; and collating  
15 the detail data with the second master data to create  
16 journal data for transfer.

17 In a further embodiments of the present invention, there is  
18 provided a recording medium storing a computer program that  
19 causes the computer to execute the processing. In many of  
20 these embodiments the processing includes: processing for  
21 acquiring detail data about rates; processing for acquiring  
22 a plurality of master data prepared according to contents of  
23 journalizing, wherein the master data is used for  
24 journalizing on the basis of collation with the detail data;  
25 and processing for collating the detail data with the master  
26 data and creating multiple kinds of journal data according  
27 to contents of processing in the expenditure management.

1 Now the present invention will be described on the basis of  
2 advantageous embodiments shown in the accompanying drawings.  
3 In particular, Fig. 1 is a diagram illustrating an example  
4 of an expenditure management system according to the  
5 embodiment of the present invention.

6 In Fig. 1, a symbol 10 is a detail data input section, which  
7 inputs detail data that is issued from a correspondent. A  
8 symbol 20 is a data format conversion section, which  
9 converts the detail data received at the detail data input  
10 section 10 into a common data format. A symbol 30 is a  
11 pre-journalizing details database, which stores the detail  
12 data converted by the data format conversion section 20 with  
13 adding an ID. A symbol 40 is a master database, which  
14 stores master data for managing the handling of expenditures  
15 in an organization that uses an automatic transfer service.

16 A symbol 50 is a data collation and journalizing section,  
17 which collates the detail data stored in the  
18 pre-journalizing details database 30 with the master data  
19 stored in the master database 40 and then journalizing data.

20 A symbol 60 is an appropriation database, which stores data  
21 collated at the collation and journalizing section 50 as  
22 data for appropriation and write-off of expenditures. A  
23 symbol 70 is a transfer journal database, which stores data  
24 collated at the collation and journalizing section 50 as  
25 data for transfer between departments in an organization.

26 In the above configuration, the detail data input section 10  
27 inputs detail data of public utility rates that occur for

1 use of telephone, electricity, water and gas, and detail  
2 data of rates to be paid by account transfer due to the  
3 automatic transfer service at a financial institution. The  
4 detail data is stored in various recording media such as an  
5 MO (magnetic optical disk) and CD-ROM or is input to the  
6 detail data input section 10 via communication network.  
7 Therefore, the detail data input section 10 is implemented  
8 by a drive equipment for various kinds of recording media or  
9 an interface for communication.

10 The data format conversion section 20 is implemented by, for  
11 example, a program-controlled CPU, which converts the detail  
12 data received at the detail data input section 10 into a  
13 given data format. Detail data usually has a different data  
14 format depending on public agencies and enterprises which  
15 issue the detail data. Hence, the data format conversion  
16 section 20 converts these data into a unified data format.

17 A unified data format includes, as a data item, at least a  
18 transfer key for collation with master data, an amount for  
19 each transfer key, and a data ID showing a kind of data. A  
20 transfer key is, for example, a telephone number in the case  
21 of the detail data of telephone rates. This allows creating  
22 the detail data of rates for every telephone number. A data  
23 ID is identification data added to the data according to the  
24 contents of the classification, when the rates described in  
25 the detail data need to be classified in journalizing, as  
26 described below. For example, when managing the expenditure  
27 for the automatic transfer service, it is an important  
28 factor for calculation whether consumption tax is imposed on

1 the amount of transfer key. Therefore, data ID can be set  
2 in order to differentiate the taxable amount and nontaxable  
3 amount. Of course, the data may be classified by any other  
4 classification depending on the contents of journalizing to  
5 set a data ID showing the classification. As a data item in  
6 the data format that is unified at the data format  
7 conversion section 20, there are, for example, a ledger code  
8 specifying a ledger and a correspondent code specifying a  
9 correspondent, depending on the utilization form of data.

10 The pre-journalizing details database 30 is implemented by a  
11 storage device such as a magnetic disk drive and a  
12 semiconductor memory, which stores the detail data whose  
13 data format is unified at the data format conversion section  
14 20. As for the detail data, processed data, such as a total  
15 amount, an amount of consumption tax and a discount rate, is  
16 associated with and stored.

17 Fig. 2 is a diagram showing a configuration example of data  
18 stored at the pre-journalizing details database 30 with  
19 respect to telephone rates paid to a telephone company. As  
20 is shown in the figure, the pre-journalizing details  
21 database 30 stores pre-journalizing detail data for each  
22 correspondent, while a correspondent code specifying a  
23 correspondent is omitted in the shown example.

24 Referring to Fig. 2, an amount of main body, 210 attached  
25 information, and a data ID 220 are stated for each telephone  
26 number serving as a transfer key. As for an amount of main  
27 body, a taxable amount refers to an amount of only main body

1 that does not include consumption tax within the rates that  
2 are actually paid, while a nontaxable amount refers to an  
3 amount to be paid actually. As an attached information, it  
4 is stated whether the imposition of consumption tax is  
5 available or not. As a data ID, "A" is assigned to data  
6 that is taxable, while "B" is assigned to data that is  
7 nontaxable. In addition, if both taxable and nontaxable  
8 amounts occur for a given transfer key with the same name  
9 (see "telephone number 3" and "telephone number 4"), they  
10 are stated as a different item respectively.

11 Moreover, items such as a discount rate, a total amount of  
12 main body of rates, and a total consumption tax are stated.  
13 The total consumption tax is an amount of consumption tax  
14 that is imposed on the total amount of main body of the  
15 taxable rates. As for a data ID, a discount rate that is  
16 not subject to consumption tax is assigned "B", which is the  
17 same as the case of nontaxable data, while the total amount  
18 of main body is assigned "C", and the total consumption tax  
19 is assigned "D".

20 Therefore, the following relation is established among an  
21 amount of each transfer key, the total amount of main body  
22 and the total consumption tax.

23            $C = (\text{total of A}) + (\text{total of B})$

24            $D = (\text{total of A}) \times (5/100)$

1 It is noted that a discount rate accompanies a minus sign.

2 As mentioned above, classifying the rates that have occurred  
3 into taxable rates and nontaxable rates and representing the  
4 total amount of rates by the total amount of main body and  
5 the total consumption tax, it is easy to understand which  
6 rate is subject to consumption tax, thus a correct handling  
7 becomes possible.

8 The master database 40 is implemented by a storage device  
9 such as a magnetic disk drive and a semiconductor memory,  
10 which stores master data including various kinds of  
11 information necessary for paying the expenditure by  
12 automatic debt transfer. A configuration of master data may  
13 be set arbitrarily according to the utilization form of the  
14 master data in a system, however, for the sake of collation  
15 with detail data stored in the pre-journalizing details  
16 database 30, it includes at least a collation key  
17 corresponding to a transfer key of the detail data, data ID,  
18 and in addition, code data if the detail data includes a  
19 ledger code or a correspondent code. Furthermore, an  
20 account title code necessary for later journalizing and an  
21 imposed department code specifying an imposed department  
22 that actually pays rates may be included.

23 In addition, according to the present invention, journal  
24 data for appropriation and write-off of expenditures and  
25 journal data for transfer in an organization are created  
26 from detail data stored in the pre-journalizing details  
27 database 30. Therefore, in data collation described below,

1 two kinds of master data are created for the sake of  
2 collation according to these journalizing. Hence, master  
3 data includes a master type for identifying which collation  
4 the master data is used for.

5 The registration of master data with the master database 40  
6 is performed by, for example, displaying an input format of  
7 the created Web pages using HTML to an input terminal and  
8 inputting information necessary for this input format.

9 Fig. 3 is a diagram showing a configuration example of such  
10 an input format (i.e., input screen). Referring to Fig. 3,  
11 there are specified a ledger code (shown as LC in the  
12 drawing), a correspondent code, identification data of  
13 master type, etc. As an input column 310 of management  
14 information of master data, there are provided an input  
15 column 311 for information specifying an applicant, an input  
16 column 312 for information specifying a manager, and an  
17 input column 313 for information specifying an approving  
18 person. As an input column 320 of accounting information,  
19 there are provided an input column 321 for an account title  
20 code that specifies an account title in detail data after  
21 journalizing, an input column 322 for an imposed department  
22 code, and an input column 323 for a collation key. As for  
23 the input column 321 for an account title code and the input  
24 column 322 for an imposed department code, two columns are  
25 provided respectively, that is, one for taxable and the  
26 other for nontaxable, which include information  
27 corresponding to data IDs in detail data of the  
28 pre-journalizing details database 30.

1 The data collation and journalizing section 50 is  
2 implemented by, for example, a program-controlled CPU, which  
3 collates detail data stored in the pre-journalizing details  
4 database 30 with master data stored in the master database  
5 40 and journalizing the detail data.

6 As mentioned above, the journal data includes appropriation  
7 journal data for appropriation and write-off of expenditures  
8 and transfer journal data for transfer in an organization.  
9 Therefore, the data collation and journalizing section 50  
10 creates the appropriation journal data and the transfer  
11 journal data in principle, however, it may create either one  
12 of those journal data depending on an operative condition of  
13 a system, a configuration of the detail data, a form of  
14 payment, etc.

15 Fig. 4 is a diagram showing an example of an operation for  
16 creating appropriation journal data by the data collation  
17 and journalizing section 50. Referring to Fig. 4, first,  
18 detail data that is to be processed is specified using a  
19 correspondent code or the like (step 401). Then, specifying  
20 a kind of detail data necessary for creating the  
21 appropriation journal data by using a data ID, and making it  
22 an object for collation (step 402). In this operation,  
23 journal data is created that is used for appropriation or  
24 write-off of expenditures to be paid to a correspondent by  
25 an organization, thus the object of collation is a total  
26 amount of expenditures that have occurred, which correspond  
27 to data with data ID "C" in the example shown in Fig. 2. On  
28 the other hand, in master data, an object of collation is

1 master data of a master type that is to be used for creating  
2 the appropriation journal data.

3 Then, a ledger code, a correspondent code, a transfer key  
4 (collation key), and a data ID are collated between the  
5 detail data and the master data, which are subject to  
6 collation. If these data match, with respect to the detail  
7 data with data ID "C", an account title code and imposed  
8 department code of the master data are assigned to the  
9 debtor, while an accounts payable account title code is  
10 assigned to the creditor. In addition, with respect to the  
11 detail data with a data ID "D", a consumption tax account  
12 title code is assigned to the debtor, while an accounts  
13 payable account title code is assigned to the creditor (step  
14 403, 404).

15 On the other hand, if collated data does not match, then  
16 with respect to the detail data with data ID "C", an account  
17 title code for saving an error code and an imposed  
18 department code are assigned to the debtor, while an  
19 accounts payable account title code is assigned to the  
20 creditor. In addition, with respect to the detail data with  
21 a data ID "D", a consumption tax account title code is  
22 assigned to the debtor, while an accounts payable account  
23 title code is assigned to the creditor (step 403, 405).

24 Fig. 5 is a diagram showing an example of an operation for  
25 creating transfer journal data by the data collation and  
26 journalizing section 50. Referring to Fig. 5, first, detail  
27 data that is to be processed is specified using a

1 correspondent code or the like (step 501). Then, specifying  
2 a kind of detail data necessary for creating the transfer  
3 journal data by using a data ID, and making it an object for  
4 collation (step 502). In this operation, journal data is  
5 created that is used for transfer within an organization,  
6 thus the object of collation is an amount for each transfer  
7 key, which correspond to data with data ID "A" and "B" in  
8 the example shown in Fig. 2. On the other hand, in master  
9 data, an object of collation is master data of a master type  
10 that is to be used for creating the transfer journal data.

Q 11 Then, a ledger code, a correspondent code, a transfer key  
12 (collation key), and a data ID are collated between the  
13 detail data and the master data, which are subject to  
14 collation.

15 If these data match, with respect to the detail data with  
16 data ID "A" and "B", an account title code and imposed  
17 department code of the master data are assigned to the  
18 debtor, while an account title code subject to transfer is  
19 assigned to the creditor (step 503, 504). On the other  
20 hand, if collated data does not match, then with respect to  
21 the detail data with data ID "A" and "B", an account title  
22 code for saving an error code and an imposed department code  
23 are assigned to the debtor, while an account title code  
24 subject to transfer is assigned to the creditor (step 503,  
25 505).

26 The appropriation database 60 is implemented by a storage  
27 device such as a magnetic disk drive and a semiconductor  
28 memory, which stores appropriation journal data that was

1 created according to the operation shown in Fig. 4 in the  
2 data collation and journalizing section 50. The transfer  
3 journal database 70 is implemented by a storage device such  
4 as a magnetic disk drive and a semiconductor memory, which  
5 stores transfer journal data that was created according to  
6 the operation shown in Fig. 5 in the data collation and  
7 journalizing section 50.

8 The appropriation journal data stored in the appropriation  
9 database 60 is used in a payment procedure of rates as  
10 payment data, and stored in the cash book database 130.  
11 Also, it is stored in the general ledger database 140 along  
12 with the transfer journal data stored in the transfer  
13 journal database 70. As a result, the processing for  
14 accounting and fund management is performed using each data  
15 stored in the cash book database 130 and general ledger  
16 database 140.

17 In an embodiment of the present invention, it is the most  
18 common case to perform the aforementioned processing of Fig.  
19 4 and Fig. 5 sequentially to create both appropriation  
20 journal data and transfer journal data. However, these two  
21 kinds of journal data may not be necessary depending on a  
22 form of accounting and fund management or a form of payment  
23 at installation of the system or in an organization. Also,  
24 either one of these data may be necessary when using the  
25 present invention in combination with any other accounting  
26 system or the like. For example, when appropriating or  
27 writing off expenditures using any other system and  
28 transferring the expenditures to each department, only the

1 transfer journal data is necessary. That is, it is  
2 effective to perform either operation shown in Fig. 4 or  
3 Fig. 5, thereby creating either appropriation journal data  
4 or transfer journal data.

5 Moreover, in the example embodiment of the present  
6 invention, classifying detail data on the basis of a  
7 predetermined criterion and managing it by adding a data ID,  
8 a desired data can become an object of data collation by  
9 preparing any algorithm (logic), thereby creating any  
10 journal data. For example, selecting data with data ID "A"  
11 and data with data ID "D" as an object of data collation to  
12 create journal data, journal data of only taxable rates is  
13 created.

14 Fig. 6 is a diagram showing appropriation journal data and  
15 transfer journal data generated from the detail data 610  
16 converted to a unified format and master data. In this  
17 example, there is shown the processing for the automatic  
18 transfer service for the rate for a call that occurs  
19 relating to a telephone whose phone number (i.e., transfer  
20 key, collation key) is "012-345-xxxx".

21 Referring to the detail data 610, a correspondent is a  
22 telephone company whose correspondent code is "E00001",  
23 wherein the taxable rate for a call (i.e., data ID "A") is  
24 1000 yen, the nontaxable rate for a call (i.e., data ID "B")  
25 is 500 yen, the total rate for a call (i.e., data ID "C") is  
26 1500 yen (= 1000 yen + 500 yen), and the amount of

1 consumption tax (i.e., data ID "D") is 50 yen (= 1000 yen ×  
2 (5/100)).

3 Next, referring to the master data 620, it is shown that a  
4 master type for creating the transfer journal data is  
5 defined as "master type 1", a master type for creating  
6 appropriation journal data is defined as "master type 2",  
7 and further with respect to the taxable rate for a call  
8 (i.e., data ID "A") of the master type 1, the account title  
9 code is "02-626-7406", an imposed department code is  
10 "H25000", while with respect to the nontaxable rate for a  
11 call (i.e., data ID "B") of the master type 1, the account  
12 title code is "02-626-7402", an imposed department code is  
13 "H25000", further with respect to the total rate for a call  
14 (i.e., data ID "C") of the master type 2, the account title  
15 code is "09-624-7400", an imposed department code is  
16 "571ED0".

17 In creating the appropriation journal data 630, data with  
18 data ID "C" and "D" in the detail data, and data of the  
19 master type 2 in the master data are used. In journalizing  
20 of debtor and creditor, an account title code and imposed  
21 department code of the master data are assigned to the  
22 debtor, while an accounts payable account title code is  
23 assigned to the creditor, with respect to data with data ID  
24 "C", as is shown in Fig. 4 at step 404. In addition, with  
25 respect to the detail data with a data ID "D", a consumption  
26 tax account title code is assigned to the debtor, while an  
27 accounts payable account title code is assigned to the

1 creditor. Therefore, referring to the appropriation journal  
2 data shown in Fig. 6, the following data is created:

3 09-626-7400 571ED0 (total rate for a call) / accounts  
4 payable account 1500 yen

5 total consumption tax / accounts payable account 50 yen

6 On the other hand, at the write-off, resulting in the  
7 following:

8 accounts payable account / charge 1550 yen (= 1500 yen  
9 + 50 yen)

10 Next, in creating the transfer journal data 640, data with  
11 data ID "A" and "B" in the detail data, and data of the  
12 master type 2 in the master data are used. In journalizing  
13 of debtor and creditor, an account title code and imposed  
14 department code of the master data are assigned to the  
15 debtor, while an account title code subject to transfer is  
16 assigned to the creditor, as is shown in Fig. 5 at step 504.  
17 Therefore, referring to the transfer journal data shown in  
18 Fig. 6, the following data is created:

19 02-626-7406 H25000 / 09-624-7400 571ED0 (total rate for  
20 a call) 1000 yen

21 02-626-7402 H25000 / 09-624-7400 571ED0 (total rate for  
22 a call) 500 yen

1 In this way, creating the appropriation journal data 630 and  
2 transfer journal data 640 according to the present  
3 invention, all journalizing becomes possible, including  
4 appropriation and write-off of expenditures, and transfer  
5 between departments in an organization.

6 Advantages of the Invention

7 As mentioned above, according to the present invention,  
8 there is provided an expenditure management system for  
9 performing the handling of consumption tax exactly.  
10 Moreover, there is provided an expenditure management system  
11 for performing various kinds of management by creating  
12 master data for appropriation and write-off of expenditures  
13 and master data for transfer within an organization.

14 The present invention can be realized in hardware, software,  
15 or a combination of hardware and software. A visualization  
16 tool according to the present invention can be realized in a  
17 centralized fashion in one computer system, or in a  
18 distributed fashion where different elements are spread  
19 across several interconnected computer systems. Any kind of  
20 computer system - or other apparatus adapted for carrying  
21 out the methods and/or functions described herein - is  
22 suitable. A typical combination of hardware and software  
23 could be a general purpose computer system with a computer  
24 program that, when being loaded and executed, controls the  
25 computer system such that it carries out the methods  
26 described herein. The present invention can also be  
27 embedded in a computer program product, which comprises all

1 the features enabling the implementation of the methods  
2 described herein, and which - when loaded in a computer  
3 system - is able to carry out these methods.

4 Computer program means or computer program in the present  
5 context include any expression, in any language, code or  
6 notation, of a set of instructions intended to cause a  
7 system having an information processing capability to  
8 perform a particular function either directly or after  
9 either or both of the following conversion to another  
10 language, code or notation, and/or reproduction in a  
11 different material form.

12 Thus the invention includes an article of manufacture  
13 comprising a computer usable medium having computer readable  
14 program code means embodied therein for causing a function  
15 described above. The computer readable program code means in  
16 the article of manufacture comprising computer readable  
17 program code means for causing a computer to effect the steps  
18 of a method of this invention. Similarly, the present  
19 invention may be implemented as a computer program product  
20 comprising a computer usable medium having computer readable  
21 program code means embodied therein for causing a function  
22 described above. The computer readable program code means in  
23 the computer program product comprising computer readable  
24 program code means for causing a computer to effect one or  
25 more functions of this invention. Furthermore, the present  
26 invention may be implemented as a program storage device  
27 readable by machine, tangibly embodying a program of  
28 instructions executable by the machine to perform method

1 steps for causing one or more functions of this invention.

2 It is noted that the foregoing has outlined some of the more  
3 pertinent objects and embodiments of the present invention.  
4 This invention may be used for many applications. Thus,  
5 although the description is made for particular arrangements  
6 and methods, the intent and concept of the invention is  
7 suitable and applicable to other arrangements and  
8 applications. It will be clear to those skilled in the art  
9 that modifications to the disclosed embodiments can be  
10 effected without departing from the spirit and scope of the  
11 invention. The described embodiments ought to be construed  
12 to be merely illustrative of some of the more prominent  
13 features and applications of the invention. Other  
14 beneficial results can be realized by applying the disclosed  
15 invention in a different manner or modifying the invention  
16 in ways known to those familiar with the art.